

REMARKS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-29 are currently pending. Claims 1, 11, 17, and 24 have been amended by the present amendment. The changes to the claims are supported by the originally filed specification and do not add new matter.¹

In the outstanding Office Action, Claims 1, 2, 4, 6, 11, 12, 14, 17, 19, 20, 24, 26, and 27 were rejected under 35 U.S.C. § 102(b) as being anticipated by JP Patent No. 2001270194 to Kobayashi (hereinafter “the ‘194 patent”); Claims 3, 5, 7, 16, 18, and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘194 patent in view of JP Patent No. 2001217972 to Kajita (hereinafter “the ‘972 patent”); Claims 9, 22, and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘194 patent in view of U.S. Patent No. 5,892,595 to Yamakawa et al. (hereinafter “the ‘595 patent”); Claims 8, 15, 21, 28, and 30-33 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘194 patent in view of U.S. Patent Application Publication No. 2002/0036643 to Namizuka et al. (hereinafter “the ‘643 application”); Claims 10 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘194 patent in view of the ‘643 application and U.S. Patent Application Publication No. 2001/0019429 to Oteki et al. (hereinafter “the ‘429 application”); and Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the ‘194 patent in view of U.S. Patent Application Publication No. 2001/0015821 to Namizuka et al. (hereinafter “the 821 application”).

Amended Claim 1 is directed to an image forming apparatus, comprising:

an image reading device configured to read an image of an original document;

¹ See, e.g., page 12, line 1 to page 13, line 28 of Applicant’s specification.

an image forming device configured to form an image on a sheet in accordance with image data read by the image reading device;

an operation unit connecting device configured to detachably connect an operation unit, said operation unit being configured to accept inputting of operational instructions for operating the image forming apparatus;

a process controller configured to control an operation of the image forming apparatus; and

an expansion unit connecting device configured to connect an additionally attachable expansion unit, said additionally attachable expansion unit including an expansion control device and being configured to further connect to at least one function adding unit, which adds at least one function to the image forming apparatus under control of the expansion control device,

wherein the expansion control device is configured to allocate resources of the image forming apparatus, including the image reading device or the image device, to each of a plurality of functions of the image forming apparatus and the at least one function adding unit, and

said process controller is configured to control the operation unit to operate and to receive a control command from the expansion control device to perform image formation.

Regarding the rejection of Claim 1 under 35 U.S.C § 102(b), it is respectfully submitted that the rejection of Claim 1, as being anticipated by the ‘194 patent, is rendered moot by the present amendment to Claim 1. However, since Claim 1 has been amended to incorporate limitations analogous to the limitations recited in Claim 30, Applicant will address the ‘194 patent and the ‘643 application cited in the rejection of Claim 30.

With respect to Claim 1, the Advisory Action asserts that the ‘194 UART corresponds to the claimed “expansion unit,” and the ‘194 external device corresponds to the “at least one function adding unit.”² Further, the Advisory Action disagrees that the ‘194 patent fails to disclose “the feature to further connect to at least one function adding unit, which adds at least one function to the image forming apparatus under control of the expansion control

² See Advisory Action dated July 28, 2008, page 2.

device,” asserting “it is clear that the external device is used to add a feature or function to the image forming apparatus it is connected to.”³

However, it is respectfully submitted that the ‘194 patent fails to disclose an expansion unit connecting device configured to connect an additionally attachable expansion unit, said additionally attachable expansion unit including an expansion control device and being configured to further connect to at least one function adding unit, which adds at least one function to the image forming apparatus under control of the expansion control device. Rather, the ‘194 patent simply discusses external devices that are connected via respective UARTs.⁴ As noted in the Advisory Action, the ‘194 external device is used to **add a feature or function** to the image forming apparatus it is connected to. The ‘194 patent does not disclose the ‘194 external device **being configured to further connect to at least one function adding unit.**

Further, it is respectfully submitted that the ‘194 patent fails to disclose that the expansion control device is configured to allocate resources of the image forming apparatus, including the image reading device or the image device, to each of a plurality of functions of the image forming apparatus and the at least one function adding unit. Rather, the ‘194 patent discusses that, when selecting a copy function, a control path is set to CPU 402 to master operating part control IC 405 using operating part control path switching part 416 and that control is carried out using CPU 402. Further, the ‘194 patent discusses that, when selecting a fax function, printer function, or scanner function, the control path is set from UART 406-408 to master operating part control IC 405 by selecting the respective function and controlled by using either of the fax unit, printer unit, or scanner unit according to the contents of the function selected.⁵ The ‘194 patent does not disclose that the external device (*i.e.*, the fax unit, printer unit, or scanner unit) includes an expansion control device that is

³ See Advisory Action dated July 28, 2008, page 3.

⁴ See ‘194 patent, paragraph [0018].

⁵ *Id.*

configured to allocate resources of the image forming apparatus, including the image reading device or the image device, to each of a plurality of functions of the image forming apparatus and the at least one function adding unit.

Further, it is respectfully submitted that the ‘643 application fails to remedy the deficiencies of the ‘194 patent, as discussed above. Further, it is noted that the Office Action and the Advisory Action do not cite the ‘643 application for teaching an expansion control device that is configured to further connect to at least one function adding unit, as defined in Claim 1.

The ‘643 application is directed to an image-processing apparatus. In particular, the ‘643 application discusses a conventional system including an external extension application unit that can connect a plurality of applications to a motherboard 103. Further, the ‘643 application discusses that, in the conventional system, each application (e.g., a facsimile control unit and a printer control unit) has a CPU and a memory, and functions as an independent unit.⁶

However, it is respectfully submitted that the ‘643 application fails to disclose that the expansion control device is configured to allocate resources of the image forming apparatus, including the image reading device or the image device, to each of a plurality of functions of the image forming apparatus and the at least one function adding unit. Rather, as noted above, the ‘643 application simply discusses an MFP 100 in which an external extension application unit can connect a plurality of applications to the motherboard 103, and that each application has a CPU and a memory, and functions as an independent unit. The ‘643 application discusses that, in the MFP 100, a memory is not used effectively and communication of a control mechanism including extended units is not made, since each of the control units performs a similar control separately, and, thereby, effective use of resources

⁶ See ‘643 application, paragraph [0007].

is not achieved.⁷ The ‘643 application does not disclose an expansion control device, included in an additionally attachable expansion unit, that is configured ***to allocate resources of the image forming apparatus, including the image reading device or the image device, to each of a plurality of functions of the image forming apparatus and the at least one function adding unit.***

Thus, no matter how the teachings of the ‘194 patent and the ‘643 application are combined, the combination does not teach or suggest the “additionally attachable expansion unit,” as defined in Claim 1. Accordingly, Applicant respectfully submits that Claim 1 (and all associated dependent claims) patentably defines over any proper combination of the ‘194 patent and the ‘643 application.

Amended Claim 11 recites limitations analogous to the limitations recited in Claim 1. Further, Claim 11 has been amended in a manner analogous to the amendments to Claim 1. Accordingly, for reasons analogous to the reasons stated above for the patentability of Claim 1, it is respectfully submitted that independent Claim 11 (and all associated dependent claims) patentably defines over any proper combination of the ‘194 patent and the ‘643 application.

Amended Claims 17 and 24 recite, in part,

allocating, by the expansion control device, resources of the image forming apparatus, including the image reading device or the image forming device, to each of a plurality of functions of the image forming apparatus and at least one function adding unit when the presence of the connection of the additionally attachable expansion unit is detected, the at least one function adding unit being configured to connect to the additionally attachable expansion unit and to add at least one function to the image forming apparatus under control of the expansion control device.

As noted above, the ‘194 patent and the ‘643 application, alone or in proper combination, fail to disclose the “additionally attachable expansion unit” recited in Claim 1.

⁷ See ‘643 application, paragraph [0012].

Thus, the ‘194 patent and the ‘643 application fail to disclose the methods of independent Claims 17 and 24, respectively. Accordingly, it is respectfully submitted that independent Claims 17 and 24 (and all associated dependent claims) patentably define over any proper combination of the ‘194 patent and the ‘643 application.

Regarding the rejections of dependent Claims 3, 5, 7, 16, 18, and 25, it is respectfully submitted that the ‘972 patent fails to remedy the deficiencies of the ‘194 patent and the ‘643 application, as discussed above. Accordingly, it is respectfully submitted that dependent Claims 3, 5, 7, 16, 18, and 25 patentably define over any proper combination of the ‘194 patent, the ‘643 application, and the ‘972 patent.

Regarding the rejections of dependent Claims 9, 22, and 29 under 35 U.S.C. § 103(a), it is respectfully submitted that the ‘595 patent fails to remedy the deficiencies of the ‘194 patent and the ‘643 application, as discussed above. Accordingly, it is respectfully submitted that dependent Claims 9, 22, and 29 patentably define over any proper combination of the ‘194 patent, the ‘643 application, and the ‘595 patent.

Regarding the rejections of dependent Claims 10 and 23 under 35 U.S.C. § 103(a), it is respectfully submitted that the ‘429 application fails to remedy the deficiencies of the ‘194 patent and the ‘643 application, as discussed above. Accordingly, it is respectfully submitted that dependent Claims 10 and 23 patentably define over any proper combination of the ‘194 patent, the ‘643 application, and the ‘429 application.

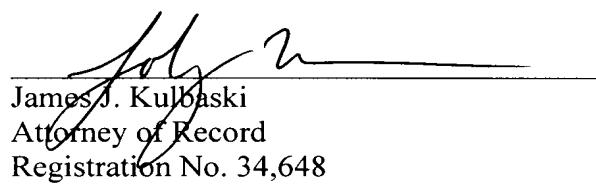
Regarding the rejection of dependent Claim 13 under 35 U.S.C. § 103(a), it is respectfully submitted that the ‘821 application fails to remedy the deficiencies of the ‘194 patent and the ‘643 application, as discussed above. Accordingly, it is respectfully submitted that dependent Claim 13 patentably defines over any proper combination of the ‘194 patent, the ‘643 application, and the ‘821 application.

Thus, it is respectfully submitted that independent Claims 1, 11, 17, and 24 (and all associated dependent claims) patentably define over any proper combination of the '194 patent, the '972 patent, the '595 patent, the '643 application, the '429 application, and the '821 application.

Consequently, in view of the present amendment and in light of the above discussion, the outstanding grounds for rejection are believed to have been overcome. The application as amended herewith is believed to be in condition for formal allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

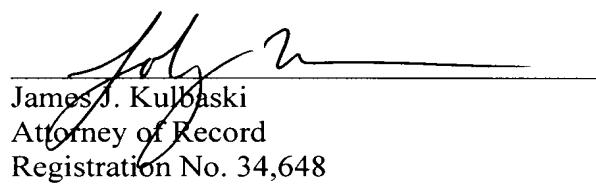
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